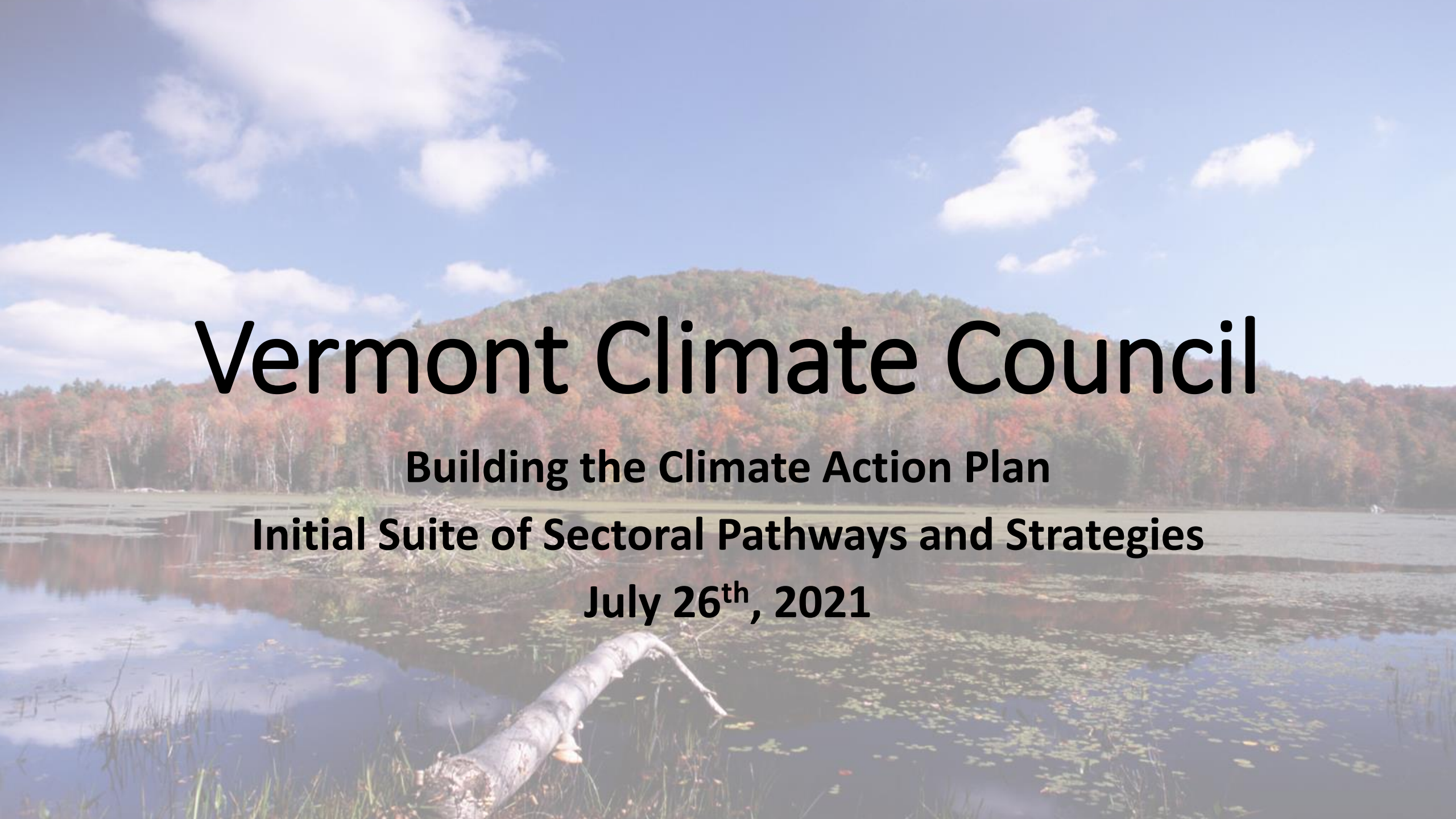
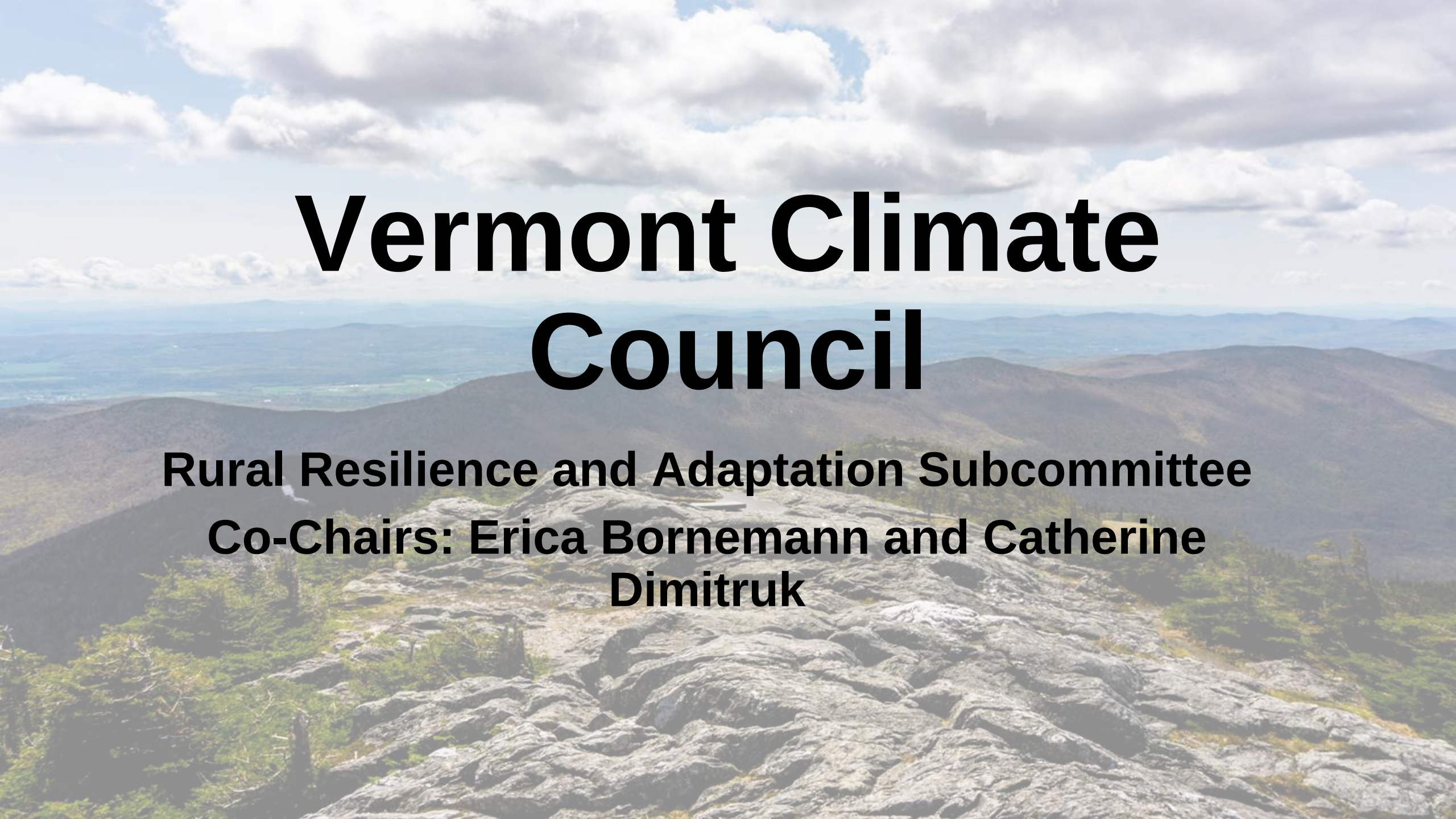


Vermont Climate Council

Building the Climate Action Plan

Initial Suite of Sectoral Pathways and Strategies

July 26th, 2021



Vermont Climate Council

Rural Resilience and Adaptation Subcommittee

Co-Chairs: Erica Bornemann and Catherine Dimitruk

Global Warmings Solutions Act

Vermont Climate Action Plan Requirements

1. Reduce greenhouse gas emissions from the transportation, building, regulated utility, industrial, commercial, and agricultural sectors;
2. Encourage smart growth and related strategies;
3. Achieve long-term sequestration and storage of carbon and promote best management practices to achieve climate mitigation, adaption, and resilience on natural working lands;
4. Achieve net zero emissions by 2050 across all sectors;
5. Reduce energy burdens for rural and marginalized communities;
6. Limit the use of chemicals, substances, or products that contribute to climate change; and
7. Build and encourage climate adaptation and resilience of Vermont communities and natural systems.

Global Warmings Solutions Act
Clear Sequence of Work

1. Five Subcommittees Defined in Statute to Develop the Work
   - Rural Resilience and Adaptation, Agriculture and Ecosystems, Cross Sector Mitigation, Just Transitions and Science and Data
2. Each Subcommittee following Clear Sequence of Work
   - Inventory existing programs to meet GWSA requirements
   - Identify, analyze and evaluate new strategies/programs needed to meet GHG requirements
   - Develop financing strategies for actions ready to implement
3. Develop monitoring strategy for assessing
4. Identify rules to be adopted (by ANR) by 2022
5. Adopt the Vermont Climate Action Plan by Dec 1, 2021 and update the Plan every four years thereafter.

Framework for Climate Action Plan

Pathways → Strategies → Actions

Cross-Sector Mitigation, Agriculture and Ecosystems and Rural Resilience and Adaptation

- A **pathway** is a high-level means of achieving GHG emissions reductions or adaptation, resilience, and sequestration goals. While written broadly, pathways should be stated specifically enough so that it is possible to assess whether progress has been made in achieving them.
- A **strategy** is a statement of measurable activity, a benchmark, to be reached in pursuit of the pathway. Strategies should be measurable and are a more specific subset of pathways.
- **Actions** are the "operational" tasks that the state will undertake to meet the pathways and strategies. Actions may be written around existing, or propose new, policies, programs, projects, initiatives, plans, etc. ***These will be further developed in the coming months, informed by public engagement and technical analyses.***

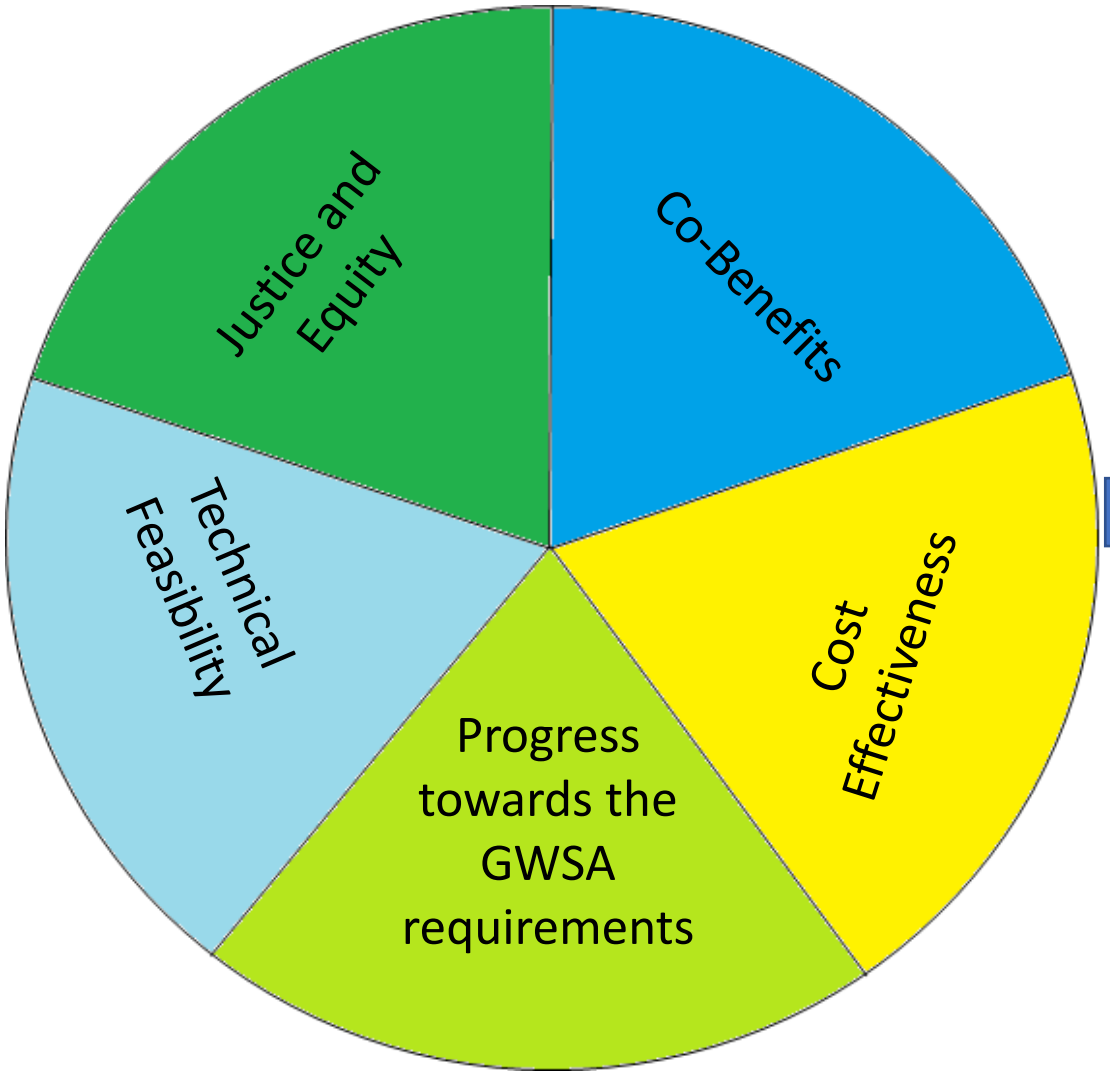
Leading with Equity as a Core Component

The term “Just Transitions” is a way of framing for government and business action on climate change. Its work encompasses both public policies and business action to deal with the impacts of industry transition away from greenhouse gas emissions for jobs and livelihoods (the transition "out") and aims to generate the low or zero greenhouse gas emission jobs and livelihoods of a sustainable society (the transition "in"). Guiding Principles for a Just Transition, June 2021

Guiding Principles for a Just Transition

- Inclusive, Transparent & Innovative Engagement
- Accountable & Restorative
- Moving at the Speed of Trust
- Solidarity
- The Most Impacted First
- Supports Workers, Families & Communities

Climate Action Plan



Short term priorities

Long term priorities

Mitigation Strategies (emissions reduction)

Sequestration Strategies

Resilience and Adaptation Strategies

Process to Date

1. Scope of Work Refined for Subcommittees
2. Subcommittee membership developed - technical expertise and diversity considered
3. Initial Ideas Explored by Task Leads
4. Presentation and Discussion
5. Pathways Presented

Rural Resilience and Adaptation Subcommittee Members and Staff Support

- Catherine Dimitruk, NRPC
- Erica Bornemann, VEM
- Lindsay Kurrle, ACCD
- Chad Farrell, Encore Renewable Energy
- Joe Flynn (designee: Joe Segale), AOT
- David Snedeker, NVDA
- Michael Burke, GMP
- Ann Lawless, NeighborWorks of Western Vermont
- Karen Horn, VLCT
- Jason Shafer (Liaison from the Science and Data Subcommittee), NVU
- Anne Margolis, PSD
- Geoff Wilcox, DCF
- Ben Rose, VEM
- Stephanie Smith, VEM
- Jens Hilke, FPR

Rural Resilience and Adaptation Subcommittee Process

Utilized existing studies and past plans

Developed extensive inventory of state, regional, and local programs

Different task groups tackled key areas of work plan scope

Sought input from various local, regional and non-profit stakeholders

Weekly meetings attended by members of the public with an open participation format

Definitions

- *Adaptation: reducing vulnerability and advancing resilience through planned and implemented enhancements to, or avoiding degradation of, natural and built systems and structures.*
- *Resilience: the capacity of individuals, communities, and natural and built systems to withstand and recover from climatic events, trends and disruptions.*

Rural Resilience and Adaptation Subcommittee Focus

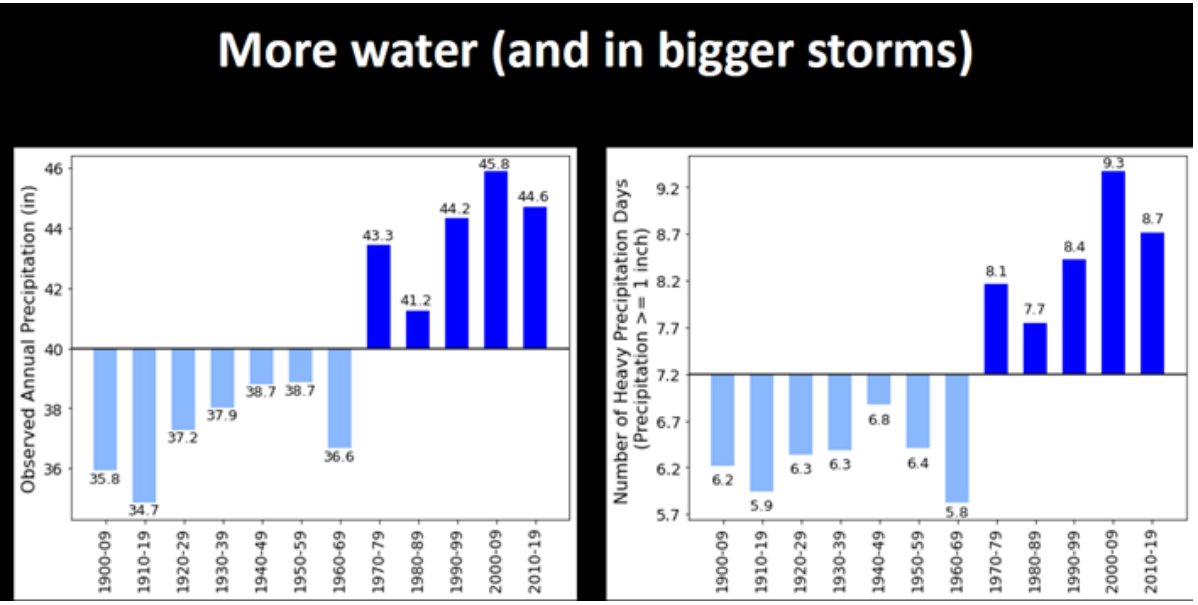
GWSA- *Focus on the pressure that climate change adaptation will impose on* ***rural transportation, electricity, housing, emergency services,*** *and* ***communications infrastructure****, and the difficulty of rural communities in meeting the needs of its citizens.*

What this means-

- *Resilience to hazards exacerbated by climate change*
- *Measure of readiness vs vulnerability to handle*


Windham county flash flooding 7.17.21, Photo Joshua Carnes


Severe damage to Vermont Route 4 in Killington, VT due to fluvial erosion during Tropical Storm Irene
Photo Credit: www.mansfieldheliflight.com/flood




Micro-burst Queechee 6.30.21 Credit VT USAR Team

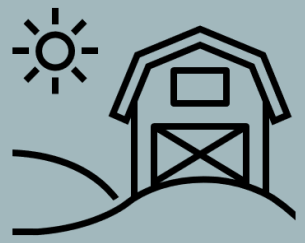

April 2018 Storm-Green Mountain Power Photo

Next Steps and Data Needs

- *Develop a municipal vulnerability index*
- *Recommend accessible tools for municipalities to assess preparedness and needed changes*
- *Secure sharing of informations re self-identified vulnerable residents*
- *Biennial program, policy and legislative recommendations on municipal resilience*

Climate Action Plan Recommended Pathways

1. **Increase local and regional capacity**, including community and civic networks (local volunteer efforts, non-government organizations, faith-based groups, etc.), for resilience planning and implementation, and address inequities of under-resourced communities.
2. **Proactively and strategically invest to enhance resilience** in transportation, communications, water/wastewater, and energy infrastructure statewide.
3. **Support the reduction of municipal, school district and residential fossil fuel use** in rural areas through equitable best practices that address the unique challenges of rural communities.
4. **Change Vermont's land-use policies** so current and future land development will be adaptive and resilient to climate change impacts by promoting compact development, enhancing the capacity of natural and working lands, and reducing greenhouse gas emissions.
5. **Ensure that all people have access to safe, accessible, energy efficient, and affordable housing** in location-efficient, compact, and mixed-use neighborhoods areas with diverse housing types and equitable access to jobs, services, schools, recreation and diverse transportation options.



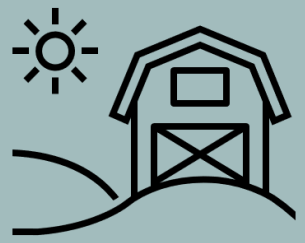
Pathway #1 Increase local and regional capacity, including community and civic networks (local volunteer efforts, non-government organizations, faith-based groups, etc.), for resilience planning and implementation, and address inequities of under-resourced communities.

A. Provide tools and resources to help communities assess climate vulnerabilities, and identify changes and investments needed to break the cycle of repetitive loss, speed post disaster economic recovery and reduce the long-term financial burden of disasters on impacted communities, businesses, and individuals.

B. Increase state, regional, and local capacity through outreach, training, and funding to help rural, under-resourced, and marginalized populations in climate preparedness and action; increase funding for municipal and regional planning.

C. Expand cross-sector collaboration that includes nonprofit, public, and private organizations involved in preparedness and resilience work to align efforts, share best practices, and leverage resources to advance equitable resilience and preparedness efforts statewide.

D. Support workforce development in trades and skills that are needed to implement climate resilience and emissions reduction actions including training on resilient design and construction techniques.



Pathway #2 Proactively and strategically invest to enhance resilience in transportation, communications, water/wastewater, and energy infrastructure statewide.

A. Create framework for identifying and evaluating climate resilience threats and impacts to transportation, water/ wastewater, energy and communications systems serving rural communities.

B. dentify, prioritize, and protect vulnerable structures and critical infrastructure; prioritize jurisdictions that have experienced historical investment inequities.

C. Integrate planning and preparedness across disciplines and geographies addressing the interdependencies of energy, communications, and other systems

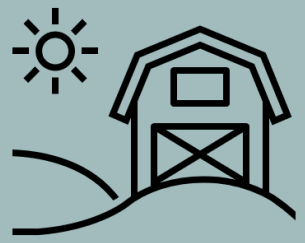
D. Expand program opportunities to establish conservation and buy-outs of flood-vulnerable properties and structures to improve natural river function and reduce repetitive loss.

E. Develop a comprehensive framework for defining, evaluating, and measuring energy and communications resilience solutions.

F. Pursue near-term, no-regrets, foundational investments in energy and communications resilience to serve rural communities.

G. Seek funding to invest in the implementation of cost prohibitive projects that improve rural energy and communications access and resilience.

H. Enhance resilience in Vermont's (rural?) transportation system to major disruptions and incremental impacts caused by climate change.



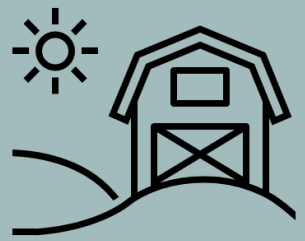
Pathway #3 Support the reduction of municipal, school district and residential fossil fuel use in rural areas through equitable best practices that address the unique challenges of rural communities.

A. Conduct thermal energy audits on publicly owned structures and work to implement and fund audit recommendations, prioritizing ARPA funds. Collect energy usage data for buildings, vehicle fleets, and utilities to establish base energy usage and for measuring change in use (ideally reductions) or technologies going forward.

A. Support local energy committees with members of diverse perspectives; engage and empower the public in planning and implementation.

A. Utilize local energy plans with clear goals and strategies to prioritize efforts to reduce and replace fossil fuel usage, including infrastructure, practices and policies, and regulatory changes.

A. Transform VT's transportation system to support the actions necessary to reduce greenhouse gases.



Pathway #4 Change Vermont's land-use policies so current and future land development will be adaptive and resilient to climate change impacts by promoting compact development, enhancing the capacity of natural and working lands, and reducing greenhouse gas emissions.

A. Increase investment in the infrastructure (sewer, water, stormwater, sidewalks, bike lanes, EV charging, broadband, energy supply) needed to support compact, walkable development that is more resilient to climate disruptions, equitable, resource efficient, and protects the adaptive capacity of natural resources.

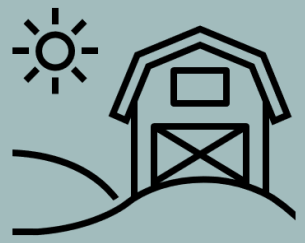
B. Develop private and public funding sources to flood-proof and elevate commercial and residential properties, as well as retain and restore ecosystem services upstream to protect our people, property, environment, and economy from floods.

C. Update state and local land-use governance, regulations, practices, and investments to eliminate barriers to development in compact, walkable development, and protect river corridors, floodplains, and wetlands, by limiting development in hazard areas and reducing the fragmentation of intact forest blocks, working forests, and habitat connectivity areas.

D. Modernize planning and development statutes and regulations to incorporate foreseeable climate change impacts, adaptation and resilience considerations including the development of resilient design and construction standards.

E. State agencies, departments, boards, commissions, and authorities should coordinate resiliency efforts across agencies and evaluate climate change impacts when considering and issuing permits, licenses, and other administrative approvals and decisions.

F. Fund research, data collection and digital maps to provide insights on development in Vermont and the impact it can have on climate and resilience goals and outcomes.



Pathway #5 Ensure that all people have access to safe, accessible, energy efficient, and affordable housing in location-efficient, compact, and mixed-use neighborhoods areas with diverse housing types and equitable access to jobs, services, schools, recreation and diverse transportation options.

A. Update state and local land-use governance, regulations, practices, and investments to eliminate barriers to housing development in compact, walkable centers.

B. Increase investments in the preservation of both private-market and nonprofit-owned affordable housing.

C. Improve privately owned rental properties through assistance to private property owners to rehabilitate existing, underutilized buildings to serve the need for rental housing and through a statewide system of housing inspections.

D. Support efforts to eliminate housing discrimination in accordance with the strategies described in the Analysis of Impediments to Fair Housing.

E. Increase funding for community-based homelessness prevention and rapid re-housing.

F. Fund research, data collection and digital maps to provide insights on housing development in Vermont and the impact it can have on climate and resilience goals and outcomes.